

CLAIMS

1. A method for synchronizing a wakeup schedule for a first communications module and a wakeup schedule for a second communications module in a wireless mobile unit, said method comprising:
determining a next first communications wakeup time; and
synchronizing a new second wakeup time to said next first communications wakeup time when said next first communications wakeup time is earlier than a next second wakeup time.

2. A method for synchronizing a wakeup schedule for a UWB module and a wakeup schedule for a communications module in a wireless mobile unit, said method comprising:
determining a next communications wakeup time; and
synchronizing a new Ultra-wideband (UWB) wakeup time to said next communications wakeup time when said next communications wakeup time is earlier than a next UWB wakeup time.

3. The method of claim 2 further comprising a step of establishing said next UWB wakeup time after said determining step and before said synchronizing step.

4. The method of claim 2 further comprising:
determining a current communications time; and
determining a current UWB time.

5. The method of claim 4 further comprising a step of determining a communications interval, said communications interval equaling said next communications wakeup time less said current communications time.

6. The method of claim 5 further comprising a step of synchronizing said new UWB wakeup time to said next communications wakeup time when said current UWB time plus said communications interval is less than said next UWB time.
7. The method of claim 2 further comprising a step of performing a UWB wakeup process and a communications wakeup process substantially at said new UWB wakeup time.
8. The method of claim 7 wherein said performing step comprises a step of powering on said UWB module and said communications module substantially simultaneously so as to reduce said wireless mobile unit's power consumption.
9. A method for synchronizing a wakeup schedule for a UWB module and a wakeup schedule for a communications module in a wireless mobile unit, said method comprising:
determining a current communications time and a current UWB time;
calculating a communications interval, said communications interval equaling a next communications wakeup time less said current communications time; and
synchronizing a new UWB wakeup time to said next communications wakeup time when said current UWB time plus said communications interval is less than a next UWB time.
10. The method of claim 9 further comprising steps of:
establishing said next communications wakeup time prior to said step of calculating said communications time interval; and
establishing said next UWB wakeup time prior to said step of synchronizing said new UWB time.

11. The method of claim 9 further comprising a step of performing a UWB wakeup process and a communications wakeup process substantially at said new UWB wakeup time.
12. The method of claim 11 wherein said performing step comprises a step of powering on said UWB module and said communications module substantially simultaneously so as to reduce said wireless mobile unit's power consumption.
13. The method of claim 9 wherein said wireless mobile unit comprises a UWB-enabled communications mobile phone.
14. A wireless mobile unit comprising:
 - a communications module configured to perform a communications wakeup process at a next communications wakeup time; and
 - a processor configured to synchronize a new UWB wakeup time to said next communications wakeup time when said next communications wakeup time is earlier than a next UWB wakeup time.
15. The wireless mobile unit of claim 14 further comprising a UWB module configured to perform a UWB wakeup process.
16. The wireless mobile unit of claim 15 wherein said UWB module is configured to perform said UWB wakeup process at said new UWB wakeup time when said next communications wakeup time is earlier than said next UWB wakeup time.
17. The wireless mobile unit of claim 14 wherein said communications module comprises a communications transmitter/receiver and a communications antenna, said communications transmitter/receiver and said communications antenna being configured to receive a pilot signal from a base station so as to synchronize said communications module with said base station.

18. The wireless mobile unit of claim 17 wherein said communications module is further configured to derive a current communications time from said pilot signal.
19. The wireless mobile unit of claim 18 wherein said UWB module comprises a clock, said clock being configured to track a current UWB time.
20. The wireless mobile unit of claim 19 wherein said processor is further configured to calculate a communications interval, said communications interval equaling said next communications wakeup time less said current communications time.
21. The wireless mobile unit of claim 20 wherein said processor is further configured to synchronize said new UWB wakeup time to said next communications wakeup time when said current UWB time plus said communications interval is less than said next UWB time.
22. The wireless mobile unit of claim 15 wherein said communications module performs said communications wakeup process and said UWB module performs said UWB wakeup process substantially at said new UWB wakeup time.
23. The wireless mobile unit of claim 22 wherein said communications module and said UWB module are configured to power on substantially simultaneously so as to reduce said wireless mobile unit's power consumption.
24. The wireless mobile unit of claim 14 wherein said wireless mobile unit is a UWB-enabled communications mobile phone.
25. A wireless unit comprising:
a means for performing a communications wakeup process at a next communications wakeup time; and

a means for synchronizing a new UWB wakeup time to said next communications wakeup time when said next communications wakeup time is earlier than a next UWB wakeup time.

26. A wireless mobile unit comprising:
 - a memory means; and
 - a means for performing a communications wakeup process at a next communications wakeup time and
 - for synchronizing a new UWB wakeup time to said next communications wakeup time when said next communications wakeup time is earlier than a next UWB wakeup time.
27. A digital signals processing apparatus, comprising: a memory means for storing digital data; and
 - a digital signal processing means for interpreting digital signals to synchronize a wakeup schedule for a UWB module and a wakeup schedule for a communications module in a wireless mobile unit by:
 - determining a next communications wakeup time; and
 - synchronizing a new UWB wakeup time to said next communications wakeup time when said next communications wakeup time is earlier than a next UWB wakeup time.
28. The apparatus of claim 27, said digital signal processing means further interpreting digital signals to establish said next UWB wakeup time after said determining a next communications wakeup time and before said synchronizing a new UWB wakeup time.